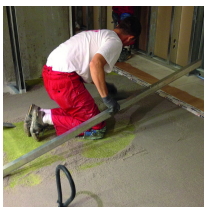
MALTA BASE

Two part solvent-free epoxy binder for quartz/resin mortars.

CE
RESIN SCREEDS
EN 13813
DESIGNATION
SR-B2,0-AR0,5-IR10

CE marking:
→ EN 13813 • Resin screed designation:
SR-B2,0-AR0,5-IR10



TECHNICAL FEATURES

WATERPROOF

APPLICATIONS

2 PART

Description

MALTA BASE is a solvent-free liquid two-part epoxy resin consisting of:
• component A: liquid epoxy prepolymers and special additives;
• component B: copolymerization amine.
MALTA BASE has been specifically designed to be added in variable quantities to quartz sands (of various grain sizes) to obtain quartz-resin mortars with physical-mechanical performances superior to normal cement mortars.

CE Marking

► EN 13813
MALTA BASE complies with the principles envisaged in the EN 13813 standard (“Screed material and floor screeds - Screed materials: Properties and requirements”) with the following designation:
→ *SR – B2,0 – AR0,5 – IR1*
• Synthetic resin (SR) based screed.
• Adhesion strength: 4.5 ± 0.3 MPa (B2.0).
• BCA wear resistance: 7 ± 1 micron (AR0.5).
• Impact resistance: 10 ± 1 Nm (IR10).

Colour

MALTA BASE is transparent, slightly yellowish.

Field of application

MALTA BASE is used as a base binder to formulate epoxy mortars for the following applications:
• creation of slope-forming fills with thicknesses from 1 mm to any thickness before applying resin coatings, particularly in the food industry;;
• repair of holes and depressions in industrial quartz floors, in all industrial sectors;
• construction of coves and bearings (bridges and viaducts);
• creation of base coves between floor and wall before appliyng a resin floor;
• realization of coatings and hardening finishes on industrial floors (screed coverings) in the renovation of old quartz concrete floors;
• creation of waterproof resin fills with mechanical resistance much higher than industrial concrete (intended for heavy mechanical engineering).

Advantages

• MALTA BASE allows to realize thin thickness fills with adhesions and compressive strengths much higher than structural cement mortars and industrial concrete.

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• MALTA BASE allows the fills to be coated and put into operation after a few hours of curing.

General preparation of the laying surface

• The substrate must be carefully examined to be sure that it is a suitable and structurally sound base.
• Industrial quartz concrete can be coated after scarifying, shot peening, diamond grinding or acid washing, with a maximum moisture content of 4% (according to UNI 10329, DIN 18560-4 or ASTM D4944, carbide method).
• Sand and cement floor screeds must have:
→ a curing time of at least 28 days;
→ a residual moisture content between 3 and 4%;
→ a minimum compressive strength of 25 MPa.
If the compressive strength is < 25 MPa, impregnate the screed in depth with an epoxy mixture consisting of 60 parts by weight of FONDO SL + 40 parts by weight of SOLVLINE EPOXY (see Technical Data Sheet of FONDO SL).
The minimum consumption for this operation is between 100 and 150 grams of undiluted FONDO SL for each cm of thickness to be consolidated.
• Screeds made with SC 1 (see the Technical Data Sheet) can be coated after 8 days (at 20°C and 50% RH).

Specific preparation of the laying substrate

► *With a moisture content of less than or equal to 3% in the substrate:*

Apply a coat of undiluted MALTA BASE by roller (consumption 0.15 kg / m²) and sprinkle with sand of NATURAL QUARTZ 0.4 – 0.6 mm (consumption 1 kg / m²);

► *Damp surface (moisture above 3%) or rising damp:*

• apply Q-PRIMER directly on the wet substrate;
• apply Q-RASANTE and sprinkle the fresh coat with 0.3 – 0.9 mm QUARTZ SAND;
• after 24 hours, remove the excess quartz, sand with a single disc machine (double cloth disc, 24/36 grit) and vacuum;
• apply MALTA BASE.

► *Industrial quartz concrete:*

apply a coat of undiluted MALTA BASE by roller (consumption 0.15 kg/m²) and sprinkle with NATURAL QUARTZ sand 0.4 – 0.6 mm (consumption 1 kg/m²);

► *Distribution joints (or splitting):*

→ industrial quartz floors up to 16 cm thick with a single reinforcing mesh and aged for less than 1 year: cover with MALTA BASE, cut out at the joints and apply a visible seal;
→ floors as above with a thickness greater than 18 cm and two reinforcing meshes or a reinforcing mesh placed in the lower third of the thickness and steel fibres (or semi-structural plastic): pour PU BASE into the joint to create a band of elastomeric resin, reinforcing with a strip of 10 cm wide GLASS MESH (160 g/m²).

Product preparation

► *Choice of version depending on the application temperature*

Measure the ambient temperature in which you will operate to identify the suitable version to use:

	
+6°C ≤ T ≤ +15°C	MALTA BASE INV
T > +15°C	MALTA BASE EST

Tab. 1: Criterion for choosing the MALTA BASE INV or EST version.

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► *Preparation of epoxy mortar*

For the preparation of resin + quartz epoxy mortars, use a mixer with a fixed body and an internal impeller system.
NOTE: for mixture quantities up to 50 kg at a time, small mixing machines readily available on the market consisting of a plastic tank (impeller) and a (fixed) system of paddles (cement adhesive mixers) are suitable.
The *mixture consistency* depends on the resin/quartz ratio:

→ Epoxy mortars with a "damp earth" consistency:
Mix 1 part by weight MALTA BASE (A+B) with 12 – 15 parts by weight of QUARZO MIX sands.

→ Closed-pore epoxy mortars:
Mix 1 part by weight MALTA BASE (A+B) with 6 – 8 parts by weight of a mixture of NATURAL QUARTZ sands consisting of:
• 1 part by weight of 0.1-0.3;
• 1 part by weight of 0.1-0.6;
• 1 part by weight of 0.3-0.9.

Product application

► *Mortar with a "damp earth" consistency*

• Pour the epoxy mortar onto the previously pre-treated surface (see specific paragraphs above).
• Spread the mortar with a rake and adjust the thickness by leveling with a screed (exactly like a cement screed).
• Saturate the surface porosity with an epoxy filler made as follows: 1 part by weight of MALTA BASE (A+B) + 1 part by weight of QUARTZ SAND 0.1-0.3 and EPOXY SILICA as needed to obtain the desired consistency (usually 2 - 3%).
• Proceed as soon as possible with the subsequent phases envisaged by the project, for example by applying NORPHEN 300, NORPHEN 200 or NORPHEN 200 HCR as a topcoat (depending on the aesthetic/functional performance required).

► *Closed-pore mortar*

• Pour the epoxy mortar onto the installation surface. Level with a straight edge (to restore surface flatness) or fill any irregularities/holes in the surface by smoothing with a steel trowel.

Consumption

type of application	minimum consumption	maximum consumption	u.m.	notes
Consolidating and wetting primer for concrete surfaces and screeds before the application of resin coatings	0,15	0,20	kg/m²	-
For 1 mm thick mortars with “damp earth” consistency	0,125	0,125	kg/m²	(1)
For 1 mm thick closed-pore mortars	0,3	0,3	kg/m²	(2)

(1) + 2.2 kg of QUARZO MIX sand.
(2) + 2 kg QUARZO MIX sand.

Tool cleaning

• Fresh product: cleaning with acetone, SOLVLINE CLEANER, SOLVLINE EPOXY or nitro thinner.
• Hardened product: mechanical removal, soaking for at least 24 hours in acetone, SOLVLINE CLEANER or nitro thinner or use of paint strippers (FLUID STRIPPER or GEL STRIPPER).

Useful tips for laying

• Do not apply on Linoleum, PVC, rubber (of various types) and surfaces with high expansion coefficients.
• In summer, keep MALTA BASE cool to avoid excessive increase in the reaction speed of the system.

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• In winter, keep MALTA BASE warm to prevent the product from losing fluidity and workability.
• When using MALTA BASE INV, apply as quickly as possible as it cures quite rapidly even at temperatures between +8 and +15°C.
• Mechanical compaction with a power trowel machine offers a significant increase in the compressive strength.
• Read the Safety Data Sheet carefully before use.

Technical Data

► PRODUCT IDENTIFICATION DATA		value
Density (comp. A) at 23 °C, 50%RH, EN ISO 1675	kg/L	1,10 ± 0,02
Density (comp. B) at 23 °C, 50%RH, EN ISO 1675	kg/L	1,00 ± 0,03
Density (A+B) at 23 °C, 50 %RH, EN ISO 1675	kg/L	1,05 ± 0,05
Dry residue, A+B	-	100%
Appearance (Component A)	-	Transparent liquid
Appearance (Component B)	-	Amber liquid
Brookfield Apparent Dynamic Viscosity (A+B, INV version, at +12°C / 50% RH; ASTM#5 spindle, 150 rpm), EN ISO 2555	mPa·s	2000 ± 100
Brookfield apparent dynamic viscosity (A+B, EST version at +25°C / 50% RH; spindle ASTM#5, 150 rpm), EN ISO 2555	mPa·s	650 ± 80

► APPLICATION DATA AND FINAL PERFORMANCE		value
Mixing ratio by weight (A:B)	-	2 : 1
Pot-life (thermometric), EST version, from +15°C to +40°C, EN ISO 9514	min	15,0 ± 0,2
Pot-life (thermometric), EST version from +23°C to +40°C, EN ISO 9514	min	10,0 ± 0,1
Pot-life (thermometric), INV version, from +5°C to +40°C, EN ISO 9514	min	20,0 ± 0,2
Pot-life (thermometric), INV version from +15°C to +40°C, EN ISO 9514	min	8,0 ± 0,1
Application temperature range (EST version)	°C	+15 to +30
Application temperature range (INV version)	°C	+6 to +15
Hardness Shore D, A+B, maturation 72 hours at +13°C/70%RH, DIN 53505	-	(69 ± 2)°
Hardness Shore D, A+B, maturation 72 hours at +25°C/70%RH, DIN 53505	-	(73 ± 2)°

► TECHNICAL DATA IN ACCORDANCE WITH EN 13813 (relating to an epoxy mortar consisting of 1 w/w (A+B) +1 w/w of QUARTZ SAND 0.3-0.9 mm)		value
Bond strength, EN 13892-8	MPa	4.5 ± 0.3 (support break)
Impact resistance (class), measured on MC coated concrete samples (0.40) according to EN 1766, EN ISO 6272-1	N·m	10 ± 1
BCA wear resistance, wear depth, EN 13892-4	µm	7 ± 1

Product storage

• 24 months in the closed original packaging, in a dry and covered place away from direct sunlight, at a temperature
between +5°C and +30°C.

Packaging

VARIANT	PACKAGE	ADR	PACKAGE / PALLET	COMPONENTS	*NOTES*
EST (for summer)	kit (A+B) - 3 kg	P*	-	A = 2 kg (steel bucket) B = 1 kg (bottle)	
EST (for summer)	(A+B) - 30 kg	Sì	-	A = 20 kg (steel bucket) B = 10 kg (jerry can)	

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VARIANT	PACKAGE	ADR	PACKAGE / PALLET	COMPONENTS	*NOTES*
EST (for summer)	(A+B) - 1500 kg	Sì	-	A = 1000 kg (tank) B = 500 kg (tank)	
INV (for winter)	kit (A+B) - 3 kg	P*	-	A = 2 kg (steel bucket) B = 1 kg (bottle)	
INV (for winter)	(A+B) - 30 kg	Sì	-	A = 20 kg (steel bucket) B = 10 kg (jerry can)	
INV (for winter)	(A+B) - 1500 kg	Sì	-	A = 1000 kg (tank) B = 10 kg (tank)	

ADR legend:

NO = NON-DANGEROUS goods

P* = DANGEROUS goods packed in limited quantities (packed as per ADR Chapter 3.4)

Sì = DANGEROUS Goods

LEGAL NOTES

Any advice concerning the methods of use of our products reflects the current state of knowledge and does not imply any guarantee and/or responsibility as to the outcome of the application. Consequently, the customer must verify the product's suitability for the intended use and purposes by testing the product in advance. The Internet website www.nordresine.com contains the latest revision of this technical sheet: in case of any doubts, verify the date of revision (where missing, use the date of issue) by consulting the "PRODUCTS" section.

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